# SC MASTER LITE

**AV Stumpfl**

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# Introduction

## Control centre and MP3 player

SC MASTER series units are MP3 players with a higher Show Control management system for controlling multi-media events. Within the SC Net network, they form the central control system with a variety of input and output options. Sound and control information is stored on a memory card the size of a postage stamp. Direct and undelayed access ensures both synchronization and interaction. The SC MASTER gives you "complete control"! Congratulations and welcome to the Stumpfl system!

The core of the device is a microprocessor with programmable operating software which allows the many features and functions of this new generation of control units to be implemented. The required configuration settings can be made, saved and called up in the entry menu. Any future developments can easily be incorporated via software updates, which will keep your unit always up-to-date.

This manual with its step-by-step instructions should help you to familiarize yourself with all the features and possibilities of this device. This manual is also available as PDF document. The latest version can be downloaded from our website.

# The Features

In order to get a feeling for the extraordinary efficiency of the SC MASTER LITE you will find an overview over the most important features below. If some of the topics inspire your curiosity, just follow the cross references for further information.

### Audio

- The integrated audio player offers stereo sound and does not use any movable parts. It is therefore virtually wearfree and uses a Compact Flash Card (called CF Card for short) as data carrier. The audio data are compressed in accordance with the Fraunhofer MPEG1 Layer3 audio compression format (called MP3 for short).
- On a CF card the size of a postage stamp with a storage capacity of 512 MB more than eight hours of stereo sound can be stored at a quality which is similar to that of a CD.
- IR remote control for volume and sound (bass and treble control), as well as Start, Stop, Skip, etc.
- Integrated 2 x 10 W audio amplifier for the LS variant of the SC MASTER LITE.

### Control

- Control of external components via SC NET, DLC data signal or the integrated RS232 interface.
- Control of lighting and other devices via DMX512 signals. The first six channels are available via a special optional

cable, control of up to 64 channels via the optional DMX Upgrade Module. Transmitting IR commands is not possible with the DMX output in use.

- Multi-functional DATA I/O port for linking up with peripheral devices, e.g. transponder reader for identification of individual visitors.
- Comprehensive timer function and synchronization with DCF77 signal with the optional radio clock module.
- Freely definable show configurations via Scheduler file. Even highly complex conditions can be specified.
- Remote control via the RS 232 input for integration with higher media control systems.
- Remote input for direct starting of shows via simple keypads.
- Direct connection of keyboard matrix with up to 24 keys.
- Connection of light barriers and motion detectors.
- Interactive show design in response to a variety of input conditions, e.g. branching to other show sections by pressing a key.
- In the case of a power failure while playing back a show from CF Card, SC MASTER automatically saves the position where the show was broken off. After starting up again, you can resume the show from the same position.
- Simple, intuitive programming of all sequences via Wings Platinum software. Subprograms can be called up via the Call Function; sequences that remain the same needn't be programmed more than once.

- All settings are menu driven via a display which is well readable from all angles, with the brightness being adjustable. Up to six set-up configurations can be saved and retrieved at any time.
- The SC MASTER operating software can be updated via a file and a Windows PC at any time.

# Versions and Scope of Supply

SC MASTER LITE is also available as LS variant with an integrated 2 x 10 W audio amplifier, which allows direct connection of passive loudspeakers. All the other functions, however, are absolutely identical:

**Included in the delivery are the following:**

- IR remote control unit
- 2 cinch cables
- RS 232 cable STK-C010
- Power supply unit AC-3 or STZ-NG3-Switch
- User manual
- Wings Platinum CD ROM

**Accessories**

- Compact Flash Cards (CF-Card) with different memory capacities of up to 512 MB.
- Special cable SCK-A-SCM-SCN for simultaneous connection of computer and SC Net modules.
- Start keypad with up to 3 keys for connection to the REMOTE connector
- Keyboard with 16 keys for direct connection to the RS 232-IN port

- Transponder for object oriented event triggering
- Motion detectors and light barriers
- Radio clock module for time-controlled presentation, to be connected to the REMOTE connector.
- OC/analog module with 16 open collector switch outputs and 8 analog outputs 0 – 10 V.
- DMX upgrade module for direct control of up to 64 DMX channels.
- DMX512 extension cable for connection to REMOTE connector, SCK-MDMXE
- External IR receiver for connection to the REMOTE connector

## Address

If you would like to contact us, just write a letter, send us a fax or an e-mail. We'll be pleased to hear from you!

Visit our website on the Internet. We'll always have the latest information and software ready for you!

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**Mitterweg 46**
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### Documentation Status

Last reviewed: **29.04.2004**

SC Master LITE operating software: **3.63**

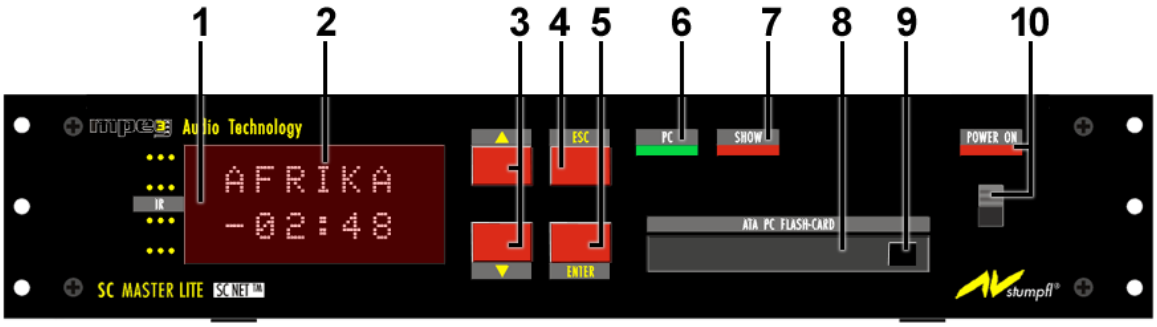
Wings Platinum Version: **1.33**

This manual has been prepared with care and contains all information about the SC MASTER LITE available at the time of print.

This documentation is also available as a PDF file, which, under certain circumstances, may be more up-to-date than the printed version. If necessary, contact us for the latest Help versions.

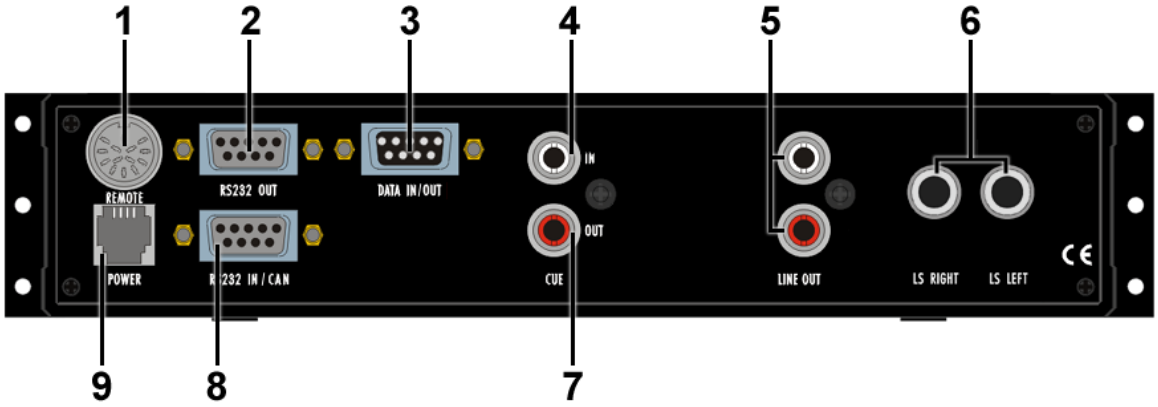
# Front and Rear Views

## Front View



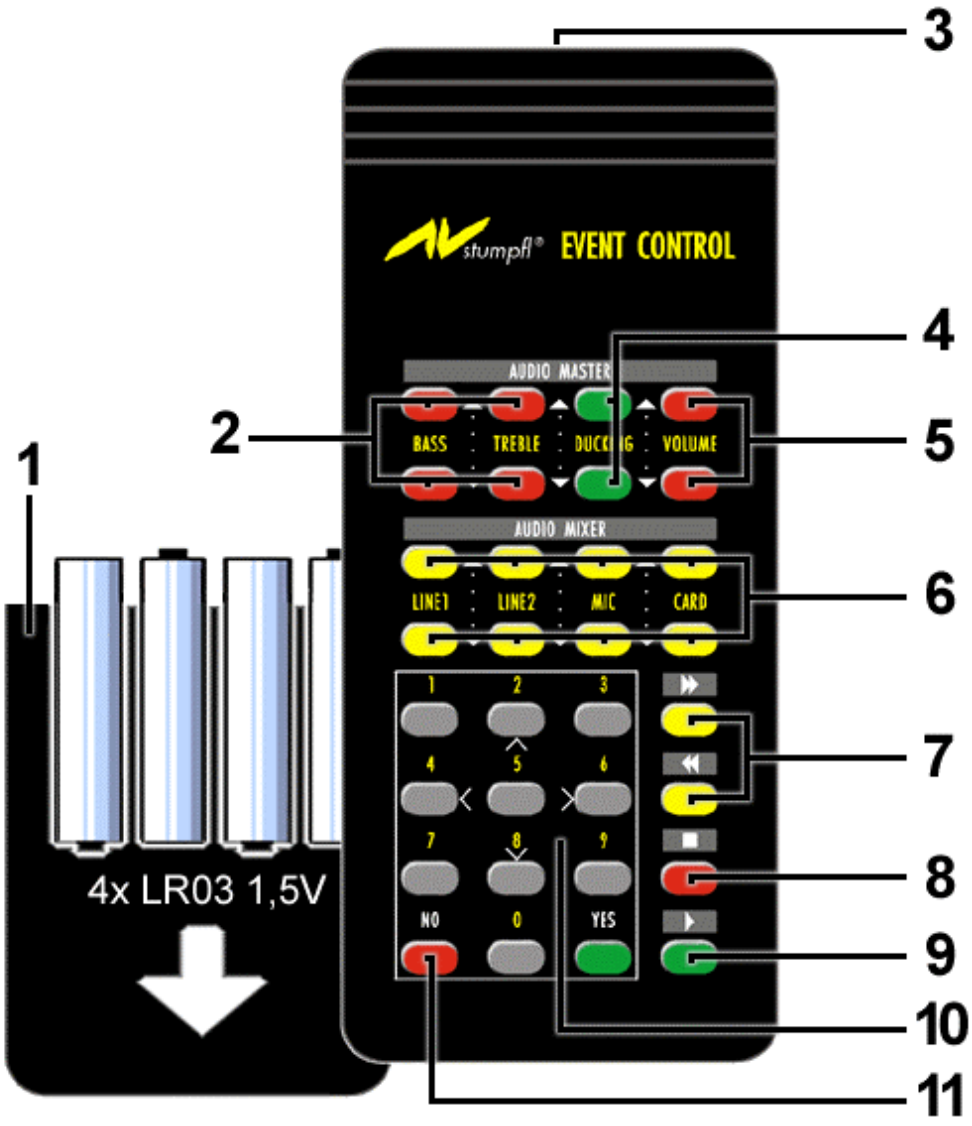

1. IR receiving diode behind the display
2. Dot matrix display
3. Keys for menu and show selection as well as for volume control
4. ESC key for the menu and for aborting running shows (press for more than one second)
5. ENTER key for the menu, for show start and restart from X-times or pause markers.
6. PC LED lights up, when the PC is connected
7. SHOW LED is on while a show is running; it starts blinking when an X-time has been encountered.
8. Compact Flash Card slot (CF Card for short)
9. Eject button for the memory card
10. ON/OFF switch with control LED, lights up when ON

# Rear View




1. Connector for cable remote control units, double slider controls, DMX extension cable
2. RS232-OUT connector, serial interface RS232 for control of external devices
3. Data jack incl. 8 IN/OUT channels for controlling special interfaces. See page 66.
4. CUE-IN connector, configurable interface for time code, control signals and digital audio signals with control information. See page 69.
5. LINE-OUT connector, stereo output for the MP3 player
6. 2 x 10 W loudspeaker outputs, LS variant only
7. CUE OUT connector, control signal output
8. RS232 IN/CAN, serial port for computer connection and connection to the SC NET modules (requires special SC Net cable).
9. Connector for power supply unit AC-3

# IR remote control unit




1. Cover of battery compartment, on the rear. **Warning:** Strictly observe the correct polarity indicated at the bottom of the battery compartment when inserting the batteries!
2. Bass and treble control
3. IR transmitting diodes (range between 10 to 20m)
4. Ducking keys are without function

5. Volume control
6. Volume control (and Mute keys) for the card player; keys LINE Line1, Line2 and Mic are without function.
7. Skip ⏭/Skip ⏮: For selecting a piece of music when no show is running; selection of jump markers within a particular show in mode "Show Pause"; key functions 🡅 and 🡇 for menu operation
8. Stop ■: Terminates a piece of music when the SC MASTER is used as card player. When a show is running ...pressed briefly: "Show Pause" on/off, .... pressed for more than 2.5 seconds: Show is aborted; during menu operation: ESC key
9. Play ⏵: Starts a piece of music when the SC MASTER is used as card player; restarts the show from X-times or pause markers within a show; ENTER key for menu operation
10. Keys for selecting or starting shows. See also *Extended selection of shows* on page 42. Number keys can also be used for starting from X-times.
11. NO key for special functions when selecting shows.

# Getting Started

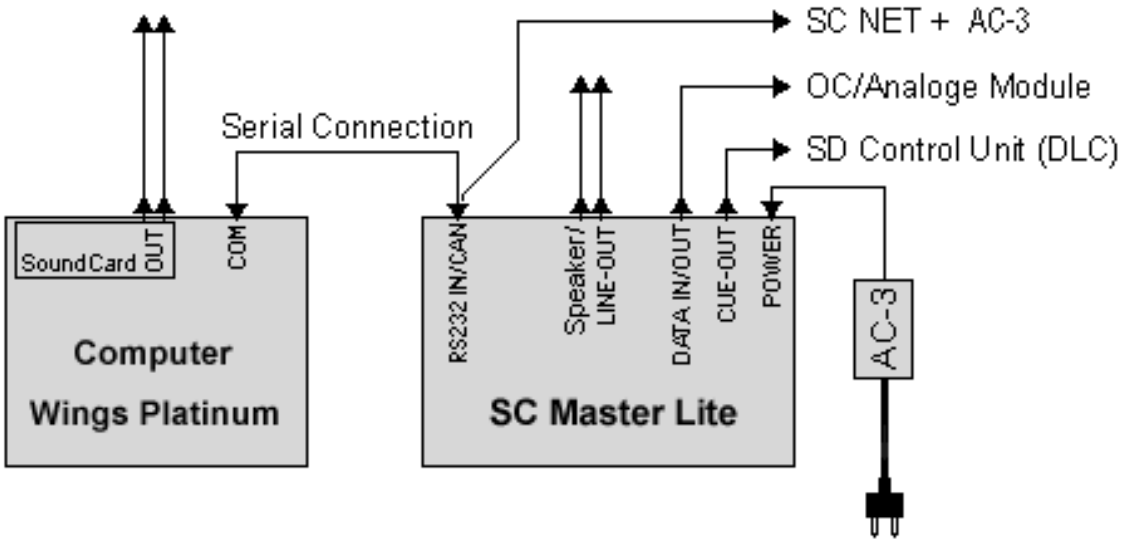
### General

You may be burning to start testing your new SC MASTER. However, before you can start presenting your first show, you will have to take a few preparatory steps.

## Cable Connections and Power Supply

### Connecting the system cables

Connect the cables as displayed below.




Once you have set up the connections between the system components, you can start programming with Wings Platinum.

In order to find out how this is done, refer to the corresponding chapters.

**Please note the following:**

- Simultaneous connection of computer and SC Net Modules requires the special cable SCK-A-SCM-SCN, which is available as an accessory. The SC Net modules are supplied via additional power supply units. Apart from a few exceptions, the power supply unit AC-3 can supply up to five SC Net modules.
- Other connection diagrams in this manual do not include the power supply unit and take its existence for granted.
- The **LS variant** required the power supply unit **STZ-NG3-Switch**.

### Switching on

Press the main switch (POWER ON) to switch on the SC MASTER. The red LED above it lights up and the display shows several messages one after the other. After about 3 seconds the following display should appear:

### Inserting the batteries into the IR remote control unit

The battery compartment is located at the rear of the remote control unit. Push the cover of the battery compartment downwards by pressing on the arrow symbol and insert four batteries size LR03 (round cell 1.5 V) in accordance with the polarity indication. Slide the cover back to close the battery compartment again.

**Important: Strictly observe the correct polarity indicated at the bottom of the battery compartment when inserting the batteries!**

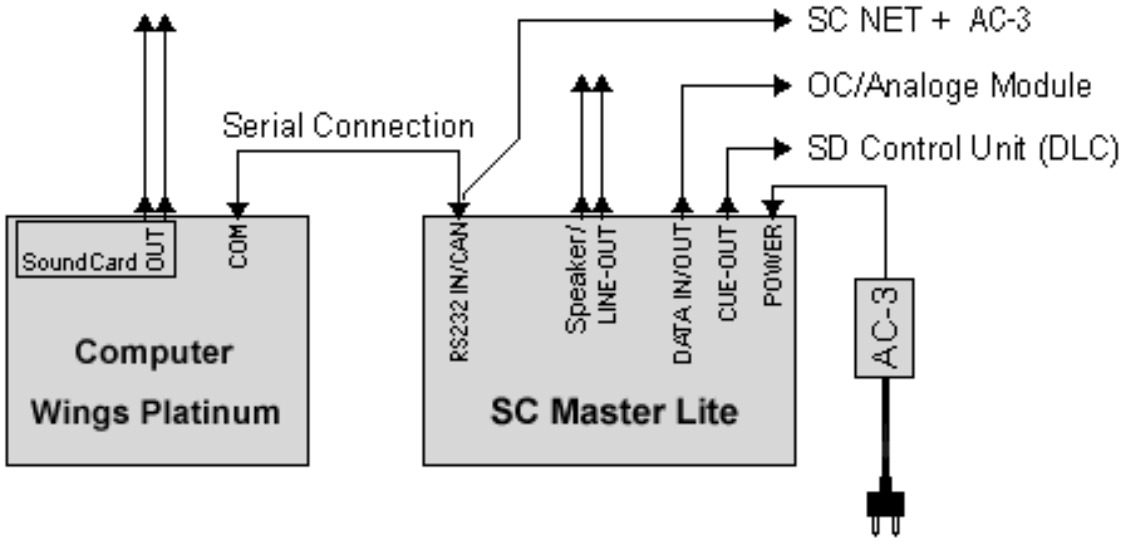
The SC MASTER is now ready for operation.

# Programming shows

## Overview

For programming, SC MASTER interacts with Wings Platinum. It is the link between multi-media units and computer. Communication with the computer is via a serial port.

1. First of all, with the devices being deactivated, connect the RS232-IN connector of the SC MASTER with the serial interface (Com 1...4) of your computer. You should use the supplied cable STK-C010 to avoid possible problems caused by ground loop and interfering voltage. If you want to connect SC Net modules as well you should use the special cable SCK-A-SCM-SCN instead of the supplied cable STK-C010. The SC Net modules cannot supplied via the SC Master LITE but require separate power supply units.



2. Now switch on the computer, followed by switching on the SC MASTER.
3. Start Wings Platinum, load a project or create one. A device port "Stumpfl DLC" or "Stumpfl SC Net" using the corresponding interface must be configured in the project.
4. In the Wings Platinum tool bar click on "Enable device ports". After the connection has been established, the green PC LED lights up and button "Enable device ports" appears depressed and in colour.

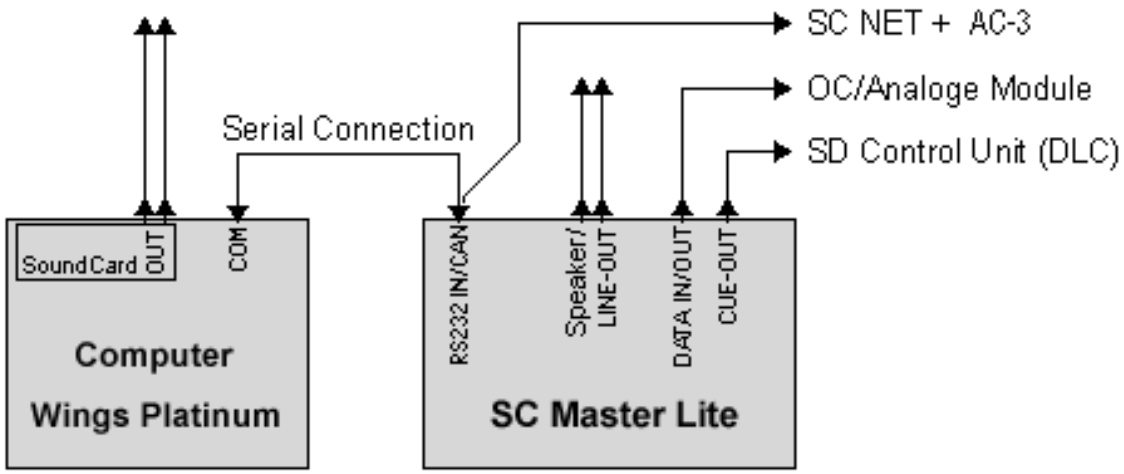
If you have problems establishing a connection with the PC, proceed according to the checklist, which you can find in the Online Help of Wings Platinum under "**Problems** ... ".

# Programming with Wings Platinum

### Preparatory steps

Hard disk recording allows parallel production of sound track and control program. This means that you don't have to mix and complete the sound track first before you can start programming or synchronizing but that the sound can be added piece by piece when producing the control program. This allows for maximum flexibility. The **Workshop For Beginners** in the Wings Platinum Help Menu provides some project examples to find out about the various functions available.

In principle, the set-up for programming and sound tracking is as follows:




What and how many external devices are connected, depends entirely on your project.

Establish communication between control unit and computer as described on page 16 and activate your system.

## Creating a project

Before SC MASTER can play back sound, you need to create the corresponding project and copy it onto CF card. In addition to MP3 audio samples, it also requires a show file containing playback information for the samples and, most of the time, also information for the devices to be controlled.

In Wings Platinum, project creation is media or object-oriented. This means that pictures, videos, music and control functions are arranged as desired while the image mix can immediately be viewed on the virtual screen. All components involved are accurately synchronized. The steps to take, which are ex-

plained in more detail in the Wings Platinum Online Help, are as follows:

**Creating a project:** The fastest and easiest way to do so is via one of the Project Wizards or via project templates.

**Capturing media:** Use Wings Platinum to capture and save music and sounds on your hard disk. Wings Platinum helps you to do so in a variety of ways. As an alternative, you can copy existing media files onto your hard disk and import the corresponding media files into the Media Pool.

**Arranging control objects in line with sound:** Drag the corresponding control objects and pieces of music from the Media Pool into the corresponding track in the timeline. All the resulting objects can be shifted, dissolved or cut in virtually the same way, which means that learning to edit is quite easy.

**Test run with devices:** A sequence that has been prepared in Wings Platinum can immediately be checked via the connected devices. They will follow the Locator position in Wings Platinum when the device ports are enabled.

**Creating presentation data:** Once you have completed your project and want to present it without PC you need to create presentation data for the SC MASTER.

Details on how to produce presentation data for CF card can be found from page 21 onwards. Refer to the Online Help to find out about the effective ways of programming with Wings Platinum. This help is context-sensitive, i.e. by pressing the F1 key the topic matching the open dialog box will usually be displayed. The help also contains example projects for classical show control applications.

# Creating a Show Medium

## General

Once you have finished programming your show, you continue by creating the presentation medium, which allows you to present your show even without computer.

### Unbelievable, but true! MP3 audio data compression

Strictly speaking this compression technology developed by the Fraunhofer Institute is called MPEG 1 Layer 3. In the meantime, however, it's only called MP3 for short among experts. That's what we do, too.

But more important is what there is to it: It is hardly conceivable that a reduction of audio data by up to 90% does not result in an audible loss of quality. This compression technology is based on psychoacoustics, i.e. perception of sound by people. In long series of scientific tests it has been found out what a person can actually hear, what is essential for hearing. And this is exactly what MP3 compression is about. All other, unimportant signals clearly fall victim to the compression!

However, the result is really worth hearing. Only trained ears will be able to notice the difference between the compressed music and the original one although this also depends on the type of music The compression of solo instruments is more

critical than that of pop arrangements. Your can choose the extent of compression yourself, which means that you can influence the quality and choose the right compression suitable for your music.

Gaining first experience with MP3 is something to look forward to!

In the list below you can find out about the dependencies between memory space requirements and extent of compression. It applies to stereo sound.

| Data rate | CF Card | 48 MB | 96 MB | 192 MB |
|---|---|---|---|---|
| 96 kbits/s | Playing time | 63 min | 126 min | 252 min |
| **128 kbits/s** | **Playing time** | **47 min** | **95 min** | **185 min** |
| 192 kbits/s | Playing time | 31 min | 63 min | 125 min |
| 256 kbits/s | Playing time | 23 min | 47 min | 93 min |

The playing time is reduced further, when a high number of shows or data-intensive shows, e.g. shows containing commands for slider control, are stored on the CF card.

# Generating data for the SC MASTER

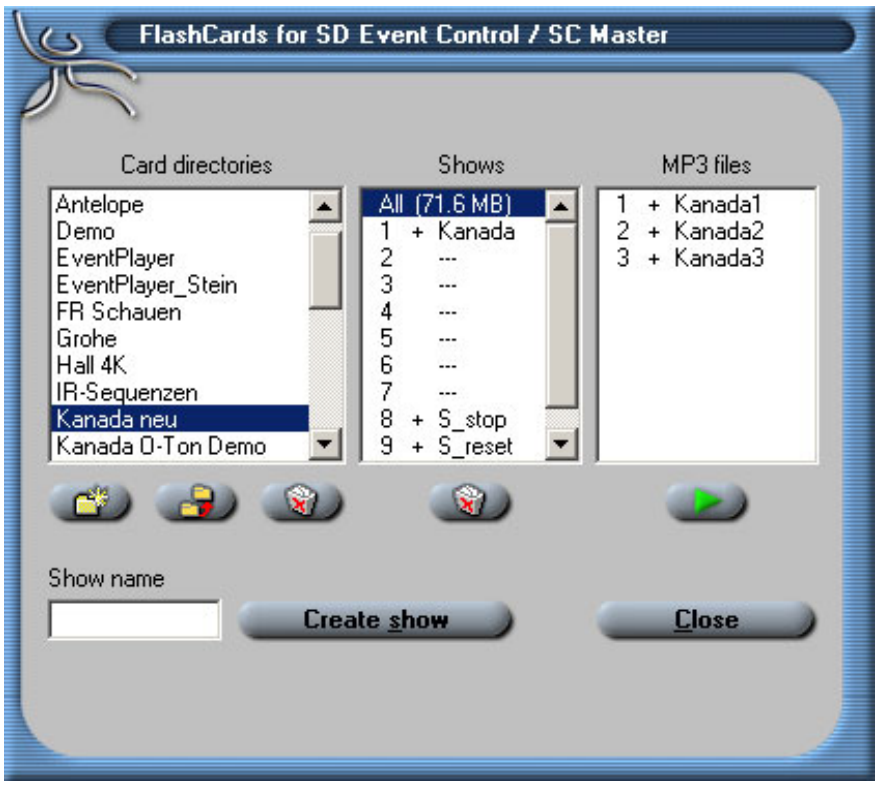
There are two steps to produce a CF Card to be used as presentation medium:

1. The presentation data for the CF card are generated and stored on the hard disk to start with. These are the control signals for the show on the one hand, and the sound track elements compressed in accordance with the MP3 data compression format on the other.
2. The presentation data prepared such are then transferred from the hard disk to the CF card. This requires a computer with CF card drive, which is also available as external model with USB connection. Or, as an alternative, you can also use the PCMCIA slot of your notebook via a CF Card adapter.

### The FlashCard Dialog in Wings Platinum

The presentation data for CF Card are generated in Wings Platinum via the FlashCard dialog, which can be called up via the main menu "Output"/"Create FlashCard...".

The FlashCard Dialog is the central tool for generating, transferring and managing CF Card presentation data.




The left field contains a list of card directories. One directory always stands for the contents of one CF card, i.e. it is the inverted image of a CF card on the hard disk.

creates a new card directory.

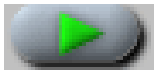
copies a card directory onto the CF Card.

deletes a card directory and its contents.

The centre field lists the shows contained in the marked card directory. The number in front of the show refers to its position on the CF Card. The plus sign indicates that the required data for the show are available. A question mark would indicate that the data are missing. At the top, next to "All" you can see the volume of data contained in the marked card directory.

deletes a show and the pertaining MP3 files

The field on the right lists all MP3 compressed audio files used in the marked show. The plus sign in front of a name indicates that the required data for the show are available. A question mark would indicate that the data are missing.

 plays an MP3 file

Double-click the show name or MP3 file to open a dialog box where you can specify the name and other properties for shows. More information can be found from page **Fehler! Textmarke nicht definiert.** onwards.

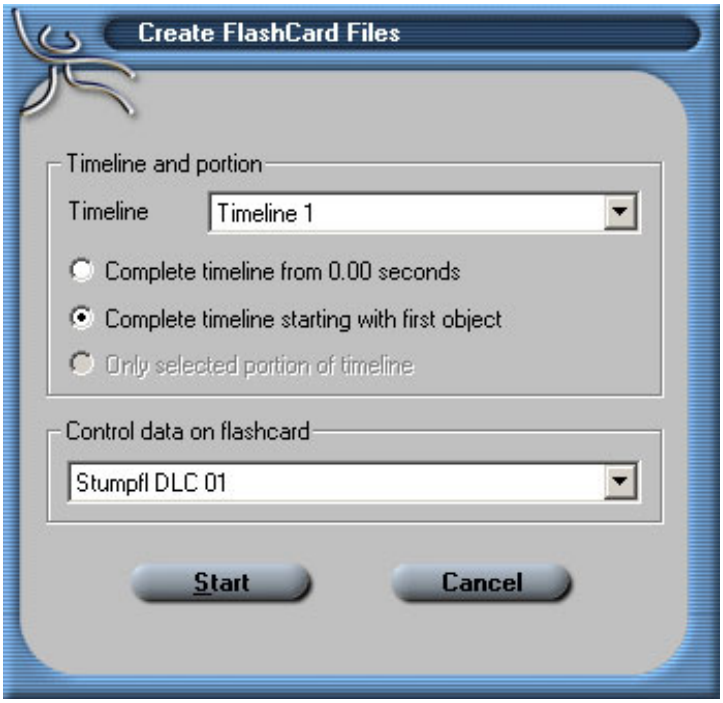
By check marking **Update Show File (without audio files)** you can up-date the presentation data without having to re-compute the sound track. To do so, mark the show to be updated in the centre column and click "Save show". Only use this option if you have not made any changes to the sound track! Otherwise show playback may no longer be synchro-nized.

### Generating presentation data for the CF Card

During this process, the presentation data for a project are, first of all, created and then saved to the hard disk. Please note that an MP3 encoder must be available on the computer to be able to compress audio data in accordance with the MP3 compression format. Numerous MP3 encoders can be down-loaded from the Internet. Further information on how to install them can be found in the Wings Platinum Online Help.

This is how you generate the presentation data:

1. Load the show or project you want to generate presentation data for and click "**Output – Create FlashCard...**" in the main menu.
2. Under "**Card directories**" mark the card directory you want the new data to be copied into. Or create a new card directory, by clicking .
3. In field "**Show name**" enter a name for your show. The maximum number of characters is eight. No special characters are allowed. Now click "**Create show**".
4. Select the required timeline under "**Timeline and Portion**". The default setting "**Timeline1**" only needs to be changed when there are several timelines.



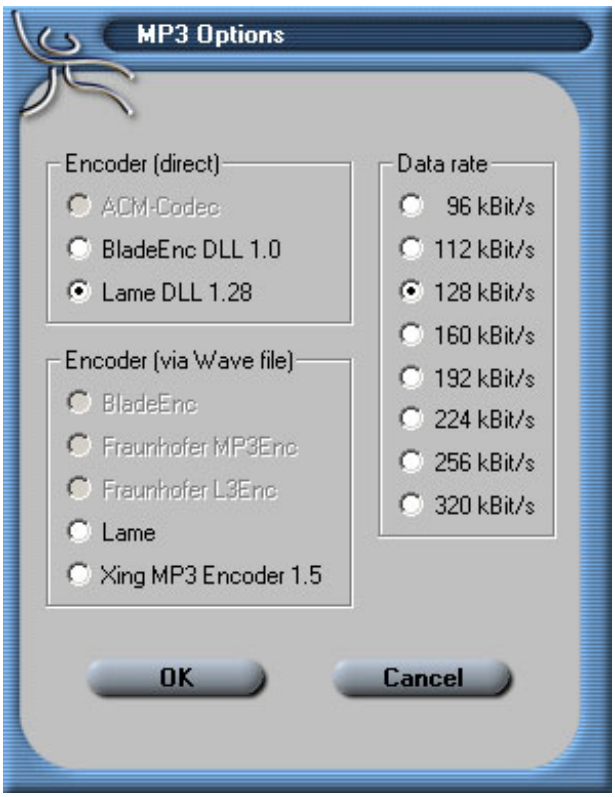
5. Select the project portion for which presentation data are to be generated.

   The following options are available:

   - "**Complete timeline from 0:00 seconds**" ... just like the timeline, the show starts at zero seconds, so that a possible leader up to the first object is also included and finishes after the last object.
   - "**Complete timeline starting with first object**" ... the show starts before the first and finishes after the last object. (.... recommended for CF Cards)
   - "**Only selected portion of timeline**" .... only the selected portion of the timeline will be considered. If no portion is marked this option cannot be selected.

6. Select the device port the control data of which are to be used. Normally, you can leave the default setting. Alterations may only be necessary when there are several device ports being used. Now click "**Start**".

7. Select an MP3 encoder. Encoders listed under "**Encoder (direct)**" will generate the MP3 files without saving any temporary data on hard disk. "**Encoders (via wave file)**" will temporarily save the sound track as wave file in the FlashCard directory, use it to produce MP3 files and finally delete the wave file again. You only need to make sure that the drive of the FlashCard directory has enough memory capacity.




8. Now select a data rate. Usually, 128 kbits/s should be sufficient for CD quality. If you are not satisfied with the quality try to improve the result by choosing a higher data rate.
9. Click "**OK**". The presentation data are being generated.

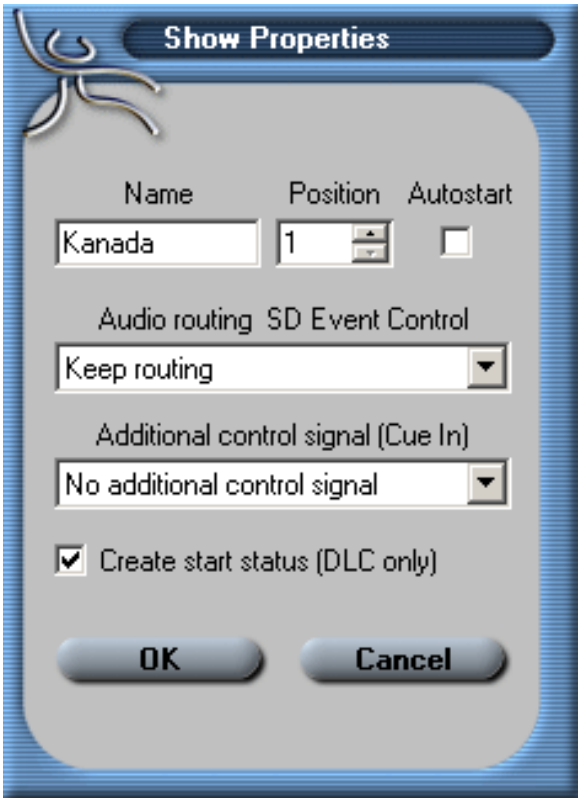
**Please note the following:**

- While creating the presentation data, several windows will appear, in accordance with the MP3 encoder used and disappear again.
- When presentation data have already been generated for a project, any alterations to the picture objects can easily be updated without renewed sound track computation: Simply mark the corresponding show in the FlashCard dialog field, put a checkmark by "Create show data only" followed by clicking Create Show .

- Only change the contents of card directories via the FlashCard dialog in Wings. When using Windows Explorer to do so, pieces of information relevant for the SC MASTER may not be updated and you might end up with problems running the shows.

### Specifying show properties

You can assign certain control properties or audio functions to shows, to be evaluated by the SC MASTER during show presentation. The dialog field opens up by double-clicking the show name.



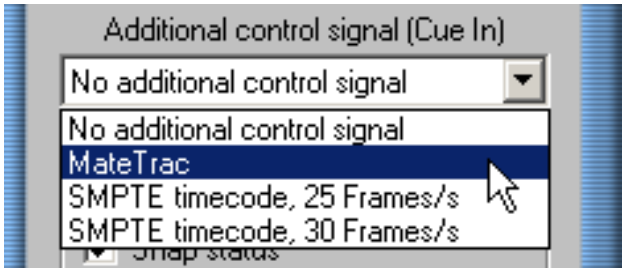

The name can be altered in field "**Show Name**".

Field "**Position**" defines the position of the show on the CF Card. This is the number you can enter later on via the IR remote control to start the show.

By activating "**Autostart**", the show is automatically started after powering up SC Master.

The settings in field "Audio Routing" are not relevant for SC MASTER LITE.

In field "**Additional data signal**" you can specify whether an additional data signal is to be output at the CUE-IN connector in addition to the DLC signal.




If you want to use older control units which can only read MateTrac, for example, select "MateTrac". If you want to synchronize multi-media components via time code, select the time code with the corresponding frame rate.

Under **Create Start Status** you can lay down whether the start status of the show is to be transferred to the control system, or whether playback is to start on the basis of the individual control system status. This parameter is only relevant for DLC signals.

Click "OK" to save all selected properties along with your show.

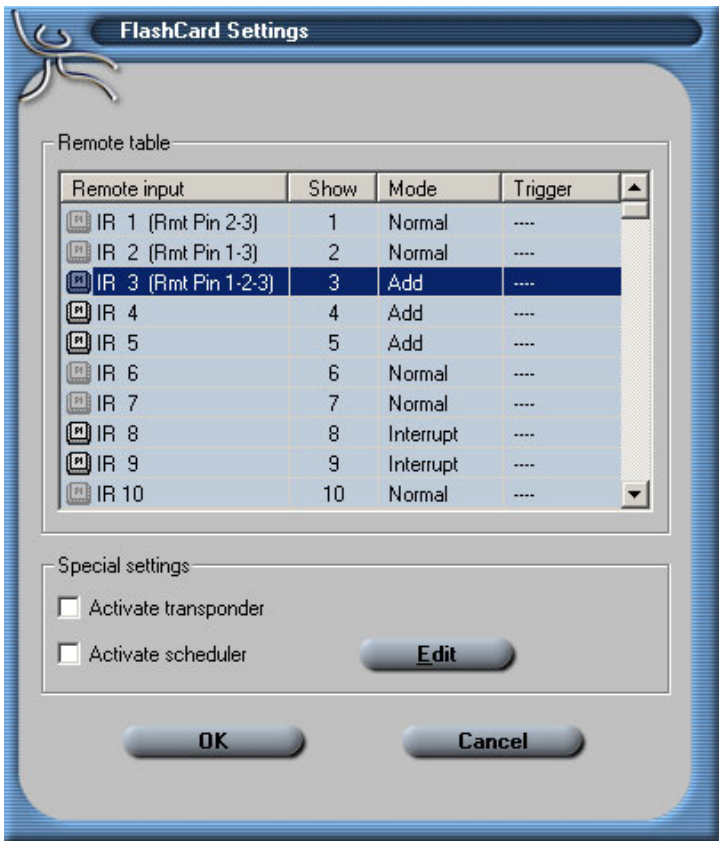
# Editing Remote Properties of Shows

For Show Control applications, shows frequently need to be remote-controlled. The SC MASTER allows you to start shows simultaneously or interactively from CF Card by pressing certain keys or via remote commands. This is defined in the CF Card Remote Table. The following operations are possible:

- Linking keys on an IR remote control unit to a show
- Linking remote commands (RS 232 or keyboard) to a show
- Allocating a mode for show start.

And this is how it is done:

1. In the main menu, click **Output – Create FlashCard...** And the FlashCard dialog will appear.
2. Double-click the corresponding FlashCard directory and the dialog **FlashCard Settings** will appear.
3. Under **Remote Input** you will find the 32 keys of an IR remote control unit, followed by an additional 120 remote inputs below. Each of these Remote inputs can be linked to a show and a mode for show start be determined.




4. Highlight the corresponding Remote input.
5. In column **Show** click on the entry field, enter the corresponding show number and press **Enter**.
6. In column **Mode** right-click the entry field and select the corresponding mode for the remote behaviour of the show. The various modes have the following effects:
    - **Normal** ...normal show start, the running show is not interrupted.
    - **Interrupt** ....show start interrupts any show being played back.
    - **Terminate** ...show start terminates only other shows but not itself.
    - **Add** ...added start; show is run simultaneously in addition to the running show. A maximum of 10 shows can be run simultaneously.

- **End** ...terminates show playback. Is used for terminating individual shows; other shows continue.
- **Continue** ...continues the selected show, when it is waiting at a Pause Marker or an X-time.
- **Continue all** ... continues all shows that are waiting at Pause Markers or X-times.
- **Memory** ...show is preselected and started automatically at the end of the running show.
- **Restart** ...a running show is started again from the beginning, other shows continue.

7. When using one of the inputs **Remote 1** to **120** you can specify whether the show is to start when the switching contact opens or closes. Right-click column **Trigger** and select **Close** or **Open**.
8. Finally, click on **OK**.

### Special settings

Below you will find a few special settings:

- **Activate transponder** ...prepares a CF Card for communication with a transponder.
- **Activate scheduler** ...prepares a CF Card for time-controlled show start. In addition to this you need to create a scheduler file containing the control information for the show starts. Further information can be found in the Wings Platinum Online Help.

## Editing Remote Properties in SHOW.INI

Remote Properties can also be edited in SHOW.INI with an ASCII Editor, e.g. Notepad. This may be very useful in emergency situations. SHOW.INI is located in every CF Card directory. Unless you have specified any other location, the show data for the SC MASTER can be found in "C:\Programs\Wings Platinum\EventControl Data" or on the CF Card.

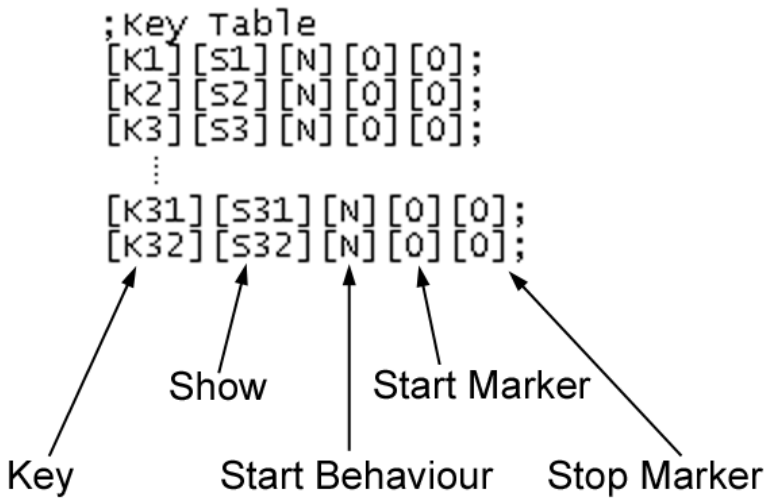
**Important:**

- Only edit sections "Key Table" and "Remote Table"; never any other sections.
- Only use the FlashCard Dialog in Wings Platinum to edit contents of CF Card folders; never use Windows Explorer to copy files.

## The Key Table

This section is located at the end of SHOW.INI and defines the properties for using an IR remote control unit. It refers to keys 1 to 9 on the standard IR remote control unit or to all 32 keys on the unlabelled IR remote control unit (customized version).

The parameters are arranged as follows:




**K**1...32 addresses the corresponding key on the IR remote control unit

**S**1...120 addresses the corresponding show to be started by means of the previously defined key.

The **Start Behaviour** of the addressed show can be defined as follows: -

**N** Normal start, the running show is not interrupted

**I** Interrupt Start; every running show is interrupted

**B** A running show is started again from the beginning, other shows continue

**T** Terminate Start; terminates only other shows but not itself

**M** Memory Start, show is preselected and started automatically at the end of the running show

**A** Added Start; show is run simultaneously in addition to the running show. A maximum of 10 shows can be run simultaneously.

**E** End of show playback. Is used for terminating individual shows; other shows continue.

If only a section of a show is to be executed, **Start** and **Stop markers** programmed in Wings Platinum can be addressed.

### The Remote Table

This section of SHOW.INI is located directly below the Key Table. It refers to a keyboard matrix with 16 keys connected to the DATA IN/OUT connector. The syntax for the Remote Table is identical to that of the Key Table. Only the Start and Stop markers are missing.

# Data Transfer to CF Card

After generating the presentation data for the SC MASTER, you can transfer them onto CF Card. For copying onto CF Card, the computer must be equipped with a CF Card drive. Such drives are also available as external drives with USB connection. If you use a notebook, a CF Card adapter for the PCMCIA slot will suffice.

### Copying the show data onto a CF Card

This is how you copy previously prepared presentation data onto CF Card:

1. In the main menu, click "**Output – Create Flash Card...**"
2. Insert the CF Card into the CF Card drive of your computer.
3. Under Card directories mark the card directory you want copied onto CF Card and click .
4. Select the letter for your CF Card drive. If you don't remember, look it up in the Windows Explorer.

Copy to flashcard
The selected drive will be erased completely!
You cannot undo this operation!
Flashcard drive
C D E F G H I J
K L M N O P Q R
S T U V W X Y Z
OK
Cancel

5. Click "**OK**". The data are then transferred onto the CF card.

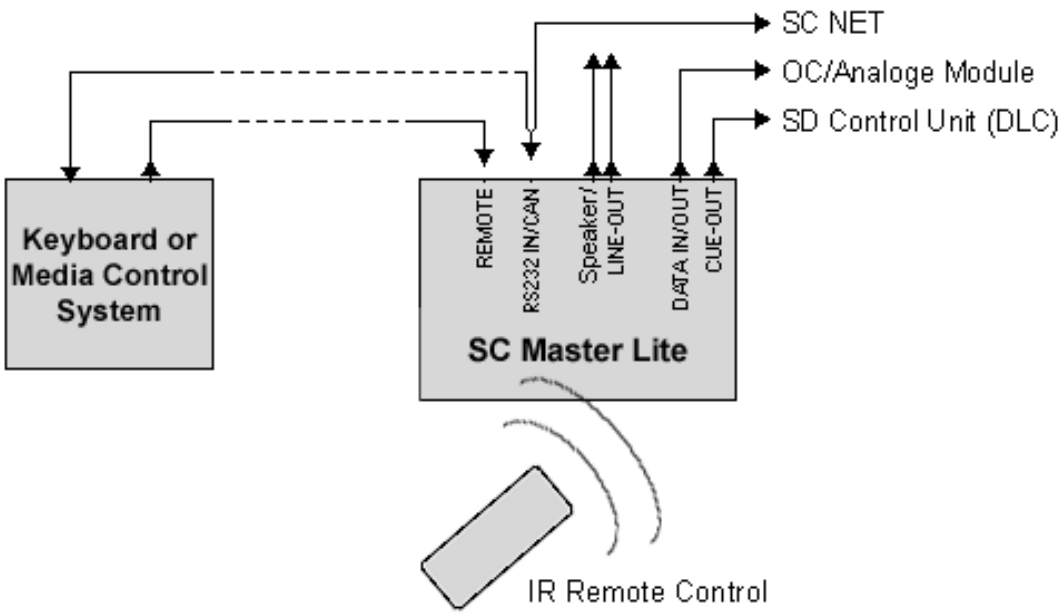
**Please note the following:**

- If you transfer a card directory onto the CF card, the existing files on this CF card will be erased!
- The situation is different for updating a show or for a directory which is already located on the CF Card: In this case, only the altered or new files are transferred. This is a great advantage for editing shows as data transfer and transfer time are reduced to the absolutely necessary.
- Should there be an error during the file transfer, the CF card must be formatted (using the FAT16 file system only!) and the presentation data be transferred again. Otherwise you may end up with problems while playing back the shows.

# Playing back shows

## Presentations - compact layout and comfortable handling

For playing back show or audio projects you need a CF Card containing the show data prepared beforehand using Wings Platinum. In principle, the configuration is the same as for programming. However, no PC is required but possibly an additional, external remote control unit.




What and how many external devices are connected, depends on your project.

**This is how you start a show:**

➔ Start up the system

➔ Insert the CF Card into the SC MASTER slot, unless this has been done beforehand. As a consequence, a message will appear on the SC MASTER display that the card was detected.

➔ Starting the show: Select and start the show by pressing the corresponding number keys on the IR remote control unit. On the SC MASTER display the show title appears and the red SHOW LED lights up or flashes when an X time or a pause marker is encountered. CUE LED on the control unit lights up as a sign that the projectors are controlled.

The show is running ...!

➔ Press key PLAY ▶ or a number key to start from an X time. The display and the flashing SHOW LED will tell you when the program stops at an X-time.

➔ Press key STOP ■ on the IR remote control unit to stop the show. The message on the display will be "Show Pause". Press the STOP key ■ once again and the show will continue.

➔ The volume can be controlled via the two CARD keys on the IR remote control unit.

➔ If you want to abort the show prematurely, press the STOP key ■ for more than 2.5 seconds or the ESC key on the SC MASTER for more than one second.

**Please note the following:**

- With position markers in your show, it is possible to navigate between them via the skip keys in mode "Show Pause". Further information can be found on page 40 and in the Wings Platinum Online Help.

## Navigation within a show

The SC MASTER offers elegant ways of navigating within a show during the presentation. This can be done via the keys on the IR remote control unit.

### Scrolling within a show

While playing back, press and hold a skip key for fast scrolling forward ⏩ or backward ⏪ within the show.

### Jumping to position markers

After stopping your show you can use the skip keys ⏩ and ⏪ in mode "Show Pause" to jump to the position markers you have programmed in Wings. The corresponding marker number will be visible in the display. And the show immediately moves to the corresponding position. Once the trays have reached the corresponding positions, you can deactivate mode "Show Pause" by pressing the PLAY ▶ or the STOP key ■ and continue playing back.

### Jumping back to the STOP position

After stopping the show and jumping to a **position marker** (Mode "Show Pause") you can jump back to the STOP position by pressing the NO key. The display will show "Stop Position".

### Setting and jumping to spontaneous markers

Spontaneous markers can be set while playing back a show. To do so, simply press the YES key. The display will briefly show "Set Marker".

After pressing the STOP key ■ in mode "Show Pause", you can jump to this spontaneous marker by pressing the YES key. The display will show "Marker: Memory". Press PLAY ▸ to continue at this position. A spontaneous marker remains stored even after the SC MASTER is switched off. You can only overwrite it by setting a new spontaneous marker.

### Extended selection of shows

Switch on your system and insert the CF card into the SC MASTER. We can offer two ways of selecting shows:

### Via the IR remote control unit

➔ Press the YES key: The display will show "Start Show:___".

➔ Now enter a number from 1 to 120 in order to select a show. Any keying errors can be deleted by pressing the "NO" key and entering the number again. Interrupt the show selection by pressing "NO" once again.

➔ By pressing button "YES" the selected show is started.

### Via the keys on the unit

➔ Press the ENTER key: The display will show: "Start Show?" Confirm with ENTER.

➔ Select the required show with keys ↑ and ↓ . The display will give you show number and title. Hold keys ↑ or ↓ to make the display "run". This is a nice feature if you want to move to far-away positions very quickly.

➔ Press ENTER, if the name of the required show is displayed, and the show will start immediately.

**Note:** Shows can also be started via switch and RS 232. Refer to page 31 and the Wings Platinum Online Help.

### IR remote control range

The IR remote control unit works perfectly at a distance of between 0.3 m and 15 m. At a distance below the minimum distance of 30 cm overdrive problems may occur which restrict infrared reception. At the maximum distance of 15 to 30 m it largely depends on the layout of the projection room. Light absorbing components, such as curtains etc. may reduce the range. In such a case, we would recommend using a cable remote control, which can be connected to the REMOTE connector at the SC MASTER.

For professional presentations in large halls, we recommend using cable remote control to improve operational reliability.

## Continuing a show after power failure

A power failure during a show is every presenter's nightmare. SC MASTER can't prevent the power failure itself, but it offers very comfortable ways of continuing safely and synchronously from the point of interruption. Once you have read through this chapter, just go ahead practising the "worst case".

➔ Leave all main switches on or switch the units on again after the power supply is resumed. Wait for the automatic reset of the peripheral devices.

➔ After switching on, SC MASTER will not display the usual message but "Continue Show?" to find out whether you want to continue the show.

➔ Confirm this message by pressing the ENTER key on the device or the YES key on the remote control. Following this, the control signal containing the status at the position of interruption is output to the peripheral devices.

➔ You can continue your show be pressing the ENTER key or the PLAY key ▸.

**Please note the following:**

- If you answer the question "Continue Show?" by pressing the ESC key instead of the ENTER key, SC MASTER will start up as usual in the normal operating mode.

- Function "Continue Show" can be deactivated in menu "Options" / "CntShw" via CS=OFF. This may be useful for permanent installations.

## Show Start with Timer

SC MASTER is equipped with a timer for time-controlled show playback.

Parameter settings can be made in menu "Timer". Further information can be found in chapter *Timer* from page 73 onwards.

# SC Net System

**General**

The SC Net System is a network consisting of an SC Master unit and one or several SC Net modules for controlling a variety of different devices. All SCNet modules are run via one single bi-directional network connection, which also serves as a power supply.

## Cable Connections and Power Supply

All components are run via one single network connection made of standard Cat5 cable with a length of up to 1,000 m. Usually, the modules are connected in series. With a distributor module, however, the arrangement of cables can also be star shaped. The compact dimensions of these modules allow them to be located next to the devices to be controlled so that the numerous connecting cables only need to be branched off at this location and can be kept very short. Unused SC Net outputs must be terminated. In large, widely branched networks, you should use modules with Iso-PlugIns for potential insulation and optimum operating safety.

The SC Net modules are supplied via additional power supply units. The power supplied additionally is not only available for the module connected to the power supply unit, but for all SC

Net modules within the network. Usually, the power supply unit AC-3 can supply up to five SC Net modules. However, there are also some modules which require a separate power supply unit.

## Address configuration

Device address 1 is always allocated to the master unit. Device addresses 2 to 125 are used for the modules (slaves) within the network. If address 2 or higher is allocated to an SC Master unit, it is regarded as a module within the network.

Every SC Net device offers particular functions to be addressed via sub addresses. After adding SC Net devices under "**Devices**" in the Wings Platinum Media Pool, they are listed with their particular functions while Wings Platinum automatically allocates an address, which, however, can be altered at any time. An SC RELAY 8out, for instance, would be visible as 8 switching contacts with addresses **2/1** to **2/8**, i.e. **2** would be the device address and **1** to **8** the sub addresses of the individual relay contacts.

### Setting addresses in the Media Pool

If you want to change the address settings in Wings Platinum, e.g. when different hardware is to be used for controlling, proceed as follows:

1. Click tab **Devices** in the Media Pool . If the corresponding devices are not displayed, click on the plus sign in front of the device port.

2. Right-click the corresponding control channel and select **Properties**. The Properties Dialog will appear.
3. Under **Address** enter the new address and confirm with **OK**.

### Setting the addresses at the hardware

For an SC Net Module to be able to perform the programmed functions, the device address listed in the Media Pool under **Devices** must be set in the module. Currently the address setting is performed via SC Master components. At a later time, this will also be possible via Wings Platinum.

This is how you set the device addresses at the SC Master and the SC Net Modules:

1. Connect the SC Master with the SC Net Modules and switch on the system.
2. In the SC Master menu go to "Options – SC-Net – **NetAdrs**" and select **NA=1**.
3. In order to establish communication within the SC Net, switch on the SC Master and off again. When starting up the SC Master, a message such as "**SC-Baud: 460800**" must briefly be displayed (the value depends on the baud rate). After communication has been established, the blue **SC NET** LED at the SC Net modules will blink at an interval of a few seconds. In the event of no communication being established, refer to page 49 for further information.
4. Return to the menu and select the address you want to allocate to an SC Net Module, e.g. **EA=2** under "Options – SC-Net – **ExtAdrs**".

5. By pressing Enter at the SC Master, all connected SD Net modules are set to configuration mode. This is indicated by the **DATA** LEDs blinking while the SC Master is sending the address into the network. Both remain active for 20 seconds.
6. During this time, press the Setup button on the SC Net module to be configured to save the address. You may have to use a pen to press the Setup button. This terminates configuration mode.

**Note:** You can now check the address set for the module. If you press the Setup button, the module address is briefly displayed on the Master unit display. If this does not work for your units, you may have to update the operating software.

## Ensuring communication within the SC Net

For an SC Net system to work safely, the data rate needs to be set to an appropriate value. SC Master automatically negotiates the baud rate with the modules, provided setting "**AudoBd**" has been chosen in Menu "Options – SC Net – **SCN Baud**". However, the SC Master does not know how many modules are connected. This is why, after powering up the system, you need to check whether all SC Net modules communicate with the SC Master. The are certain LEDs at the SC modules which indicate whether communication has been established:

- **POWER** LED ...red lamp that blinks every second when power supply and module are in working order. If the LED

is on permanently or not on at all, there is either a malfunction or no power supply.

- **DATA** LED ... lights up in green while the data for the set module address are arriving.
- **SC NET** LED ... lights up in blue when the module detects a valid activity on the network, which usually happens every 3 seconds in a passive state. If there is more activity on the network bus, the LED lights up more frequently and may even light up permanently.

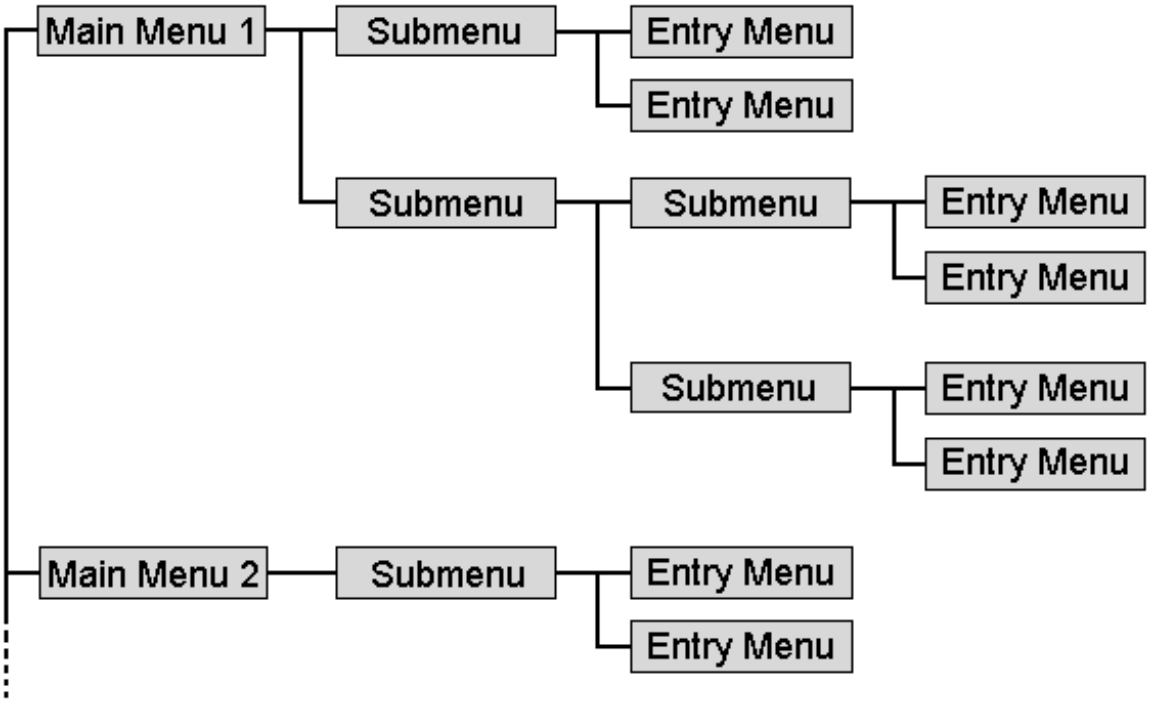
After powering up the system, all the **POWER** LEDS at the SC Net modules must light up and blink every second, while the SC NET LEDs must briefly blink every three seconds. If there is no communication with one module – something that may happen in widely branched networks – you need to reduce the SD Net baud rate manually until even the last module starts communicating within the network. This can be done in menu "Options – SC Net – **SCN Baud**". Further information is available from page 61 onwards.

# The Menu

## Layout of the Menu

SC MASTER is a modern, software-controlled unit with a number of functions, which would be very difficult to control via switches and keys only. This is why it has an extensive menu for configuration purposes.

Via this menu, SC MASTER is told what to do. In combination with the display and the keys ↑, ↓, ESC and ENTER, the menu is the central input instrument. The menu layout is as follows:

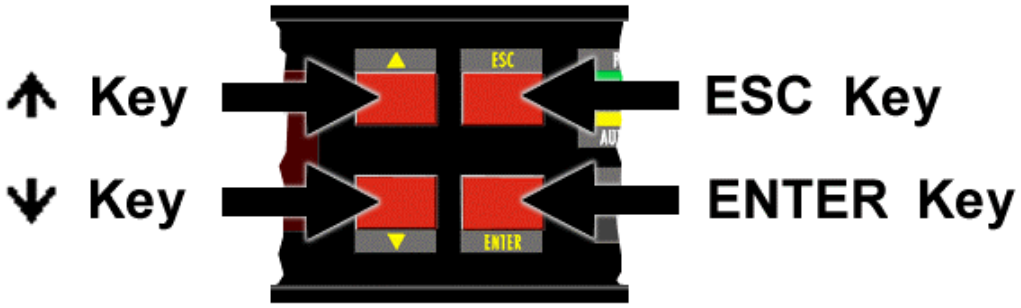



The vertical structure is divided into menu trees while the horizontal structure is divided into menu branches. Every menu branch starts with the main menu and ends with the entry menus.

Now what can be seen on the display? Just imagine covering this structure with a sheet of paper with a rectangular window just as large as the menu name. What you can see now corresponds to the display. By moving the sheet you can move to other locations in the menu. The display, therefore, only shows a selectable section of the complete menu.

# How to use the menu

The best way to comprehend the operating steps is to switch on your control unit and try out the following steps. Print-out or copy the menu chart and place it next to the unit - this will help you find the corresponding menu more easily.




To enter the menu, press both keys ESC and ENTER simultaneously. The display will show "-Menu-". Confirm with the ENTER key and the main menu opens up. The arrows to the right of the menu name indicate the following:

- The type of arrows shows us that we are in the main menu, as sub and entry menus have different arrow symbols.
- The direction of the arrows signalizes whether any further menu items can be found above or below. The double arrows visible in the picture indicate that further menus can be found above and below.

Main menu, submenu, and entry menu arrows

Let's briefly remember our sheet of paper and the window. Use keys ↑ and ↓ to move the window up and down, i.e. in vertical direction along a menu tree. The ENTER key moves the window to the right, the ESC key to the left, i.e. in horizontal direction along a menu branch.

You can step through the various items of the main menu with keys ↑ and ↓. The main menu is structured as follows:

- "Settings" for loading and saving configurations
- "Options" for selecting special features
- "Sound" for configuration of card player and mixer functions
- "Signal" for configuration of control signal functions
- "RSOut" for configuration of the serial port, e.g. for the projector module
- "Timer" for setting the timer functions
- "Info" provides information about the device version.

If you want to move to a sub menu, simply press the ENTER key. The type of arrow will now change as a sign that you are in a sub menu, and the direction of the arrows indicates whether further menu items can be found above or below.

Press the ENTER key again, and you will move to the next sub menu tree or the actual entry menu. This depends on whether there are any further sub menus in this menu branch or not.

From the arrow symbols taking the form of triangles you can see whether you have reached an entry menu. What you can see now is the current setting. This is indicated by the triangles being filled.

Use keys ↑ and ↓ to choose from a number of other possible settings. For parameters which have not been activated the arrows take the form of lines. By pressing ENTER the new setting is activated and, as a confirmation, the arrows take the form of filled triangles.

Parameters not activated

Parameters activated

Via the ENTER key you can reach the menu branch but you can also, step by step, move back to the main menu by pressing the ESC key. Once you have reached the main menu and press the ESC key once more, the question "Exit?" will appear together with an ENTER symbol. By the way, this symbol signalizes that a confirmation is required before the corresponding menu item can be activated. By pressing the ENTER key you can exit the menu.

Good. Now you know how to enter a menu, how to navigate through it and how to make settings. So nothing can keep you from exploring and finding out about all the other menus. On

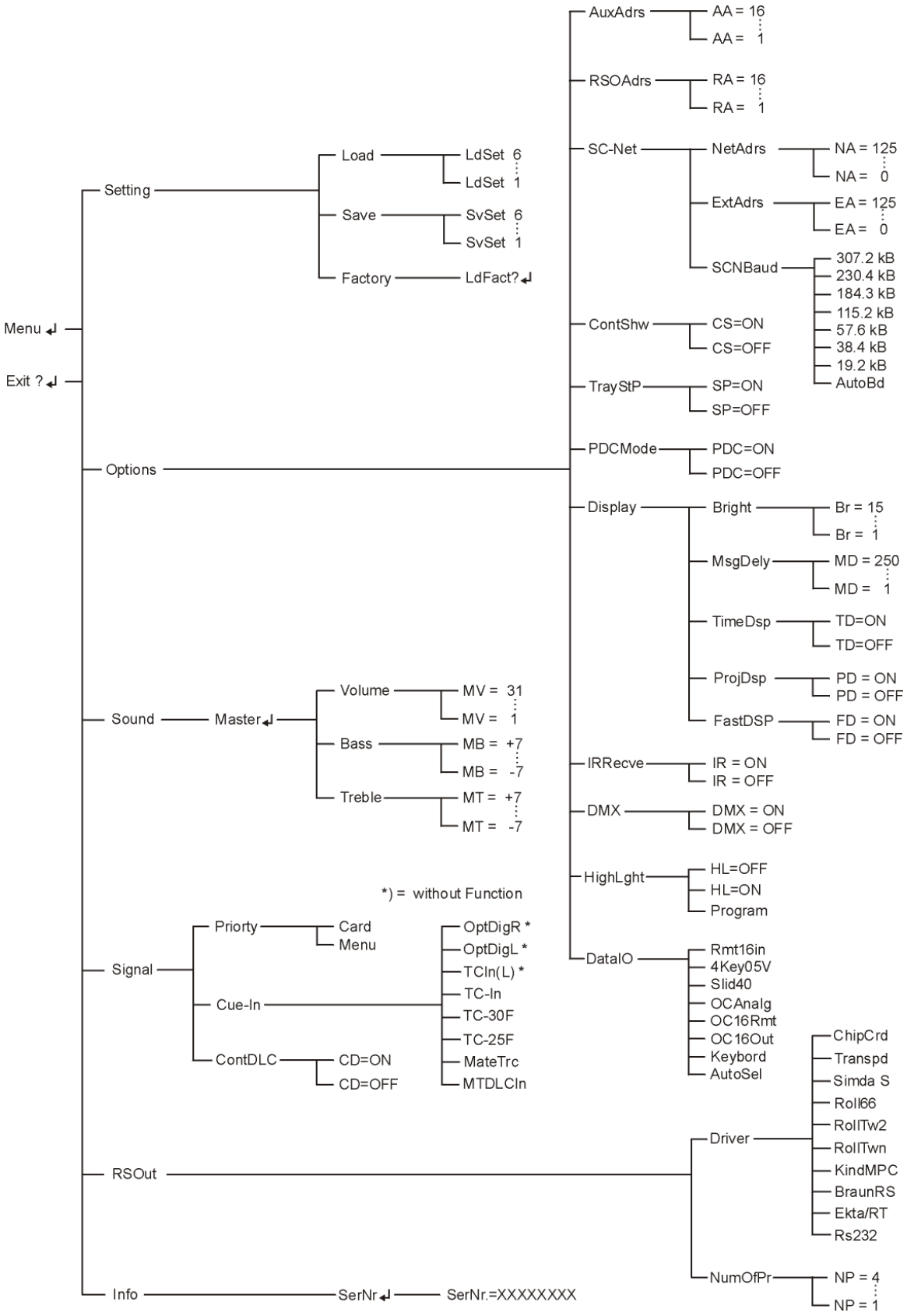
the next page you will find a menu chart and, in the following chapters, information about any possible settings, organized according to main menu items.

### Menu operation via IR remote control

Once you have entered the menu, the menu functions can also be controlled via IR remote control:

| IR remote control unit | Menu function |
|---|---|
| PLAY key ▶ | ENTER |
| STOP key ■ | ESC |
| Skip keys ⏩ and ⏪ | Keys ↑ and ↓ |

# Menu Chart


Menu ↵
Exit ? ↵
Setting
Load
LdSet 6
LdSet 1
Save
SvSet 6
SvSet 1
Factory
LdFact? ↵
Options
Sound
Master ↵
Volume
MV = 31
MV = 1
Bass
MB = +7
MB = -7
Treble
MT = +7
MT = -7
*) = without Function
Signal
Priorty
Card
Menu
Cue-In
OptDigR *
OptDigL *
TCIn(L) *
TC-In
TC-30F
TC-25F
MateTrc
MTDLCIn
ContDLC
CD=ON
CD=OFF
RSOut
Info
SerNr ↵
SerNr.=XXXXXXXX
AuxAdrs
AA = 16
AA = 1
RSOAdrs
RA = 16
RA = 1
SC-Net
NetAdrs
NA = 125
NA = 0
ExtAdrs
EA = 125
EA = 0
SCNBaud
307.2 kB
230.4 kB
184.3 kB
115.2 kB
57.6 kB
38.4 kB
19.2 kB
AutoBd
ContShw
CS=ON
CS=OFF
TrayStP
SP=ON
SP=OFF
PDCMode
PDC=ON
PDC=OFF
Display
Bright
Br = 15
Br = 1
MsgDely
MD = 250
MD = 1
TimeDsp
TD=ON
TD=OFF
ProjDsp
PD = ON
PD = OFF
FastDSP
FD = ON
FD = OFF
IRRecve
IR = ON
IR = OFF
DMX
DMX = ON
DMX = OFF
HighLght
HL=OFF
HL=ON
Program
DataIO
Rmt16in
4Key05V
Slid40
OCAnalg
OC16Rmt
OC16Out
Keybord
AutoSel
Driver
ChipCrd
Transpd
Simda S
Roll66
RollTw2
RollTwn
KindMPC
BraunRS
Ekta/RT
Rs232
NumOfPr
NP = 4
NP = 1

# The Menu Items

## Setting

### Load

For loading or activating all previously saved configurations, i.e. complete menu settings. Via input menu "LdSet 1...6" you can select one from seven previously saved configurations.

### Save

For saving complete menu settings. Entry menu "SvSet 1...6" allows you to select one from seven memory locations. It is always the loaded or activated configuration which is saved.

### Factory

In case of operating errors or if you happen to have muddled up things, just use "LdFact?" to restore the factory-set parameter configuration. It is defined as follows:

| | |
|---|---|
| AuxAdrs | AA=1 |
| RSOAdrs | RA=1 |
| NetAdrs | NA=0 |

| | |
|---|---|
| ExtAdrs | EA=2 |
| SCNBaud | AutoBd |
| ContShw | CS=ON |
| TrayStP | TS=1 |
| PDC Mode | PDC=OFF |
| Display/Brightness | Br=12 |
| Display/Message-Delay | MD=80 |
| Display/TimeDsp | TD=OFF |
| Display/ProjDsp | PD=OFF |
| FastDsp | FD=OFF |
| IRRecve | IR=ON |
| DMX | DMX=OFF |
| HighLgt | Program |
| DataIO | AutoSel |
| Master/Volume | MV=31 |
| Master/Bass | MB=0 |
| Master/Treble | MT=0 |
| VolCard | VC=31 |
| Signal/Priorty | Card |
| Cue-In | MTDLCIn |
| ContDLC | CD=OFF |
| Driver | RS232 |
| NumOfPr | NP=1 |
| AutoTim | AT=OFF |

| | |
|---|---|
| Command | TC=0 |
| TTime | TTime=0000:05 |

# Options

### AuxAdrs (Auxiliary Address)

In this menu you can specify which of the 16 addresses in the control signal are to be evaluated for the AUX relay (AA=1...16).

### RSOAdrs (RS-Out Address)

In this menu you can specify which of the 16 addresses in the control signal are to be evaluated for the output of serial commands (RA=1...16). The read commands are output to the RS232-OUT connector.

### SCNet (SCNet Communication)

### NetAdrs (SCNet Address)

Use "NetAdrs" to set the SC MASTER address for show control applications within the SCNet (NA=0...125). The default value for a master unit is always NA=1, a value of NA=0 disables SC Net operation.

### ExtAdrs (External SCNet Addresses)

This menu is used for allocating addresses to SC Net modules. The SC Net module is set to Config Mode and configured

by selecting the corresponding address (EA=2....125). Further information can be found in the SC Net module operating instructions.

### SCNBaud (SC Net Baud Rate)

This menu allows you to influence the speed of communication within the SC Net. The default setting is "Auto Baud" (AudoBd). This means that the SC MASTER automatically negotiates the baud rate for communication with the SC Net modules. For networks with a large number of modules or long cable connections it will be safer to set the baud rate manually. Choose a baud rate which ensures that even the last SC Net Module is still able to communicate. If no communication can be established although the cable connection is correct, the baud rate setting is too high.

### ContShw (Continue Show)

Here you can deactivate function "Continue Show" (CS=OFF). This may be useful for permanent installations which are to be activated or deactivated centrally. Further information can be found in chapter *Continuing a show after power failure* on page 44.

### TraySt P (Tray Starting Position)

This menu item is only relevant when a projector module is connected. You can specify whether, after a reset or after activating the control unit, the trays are to be moved to position "1" or "0". "SP=1" means starting position 1 and "SP=0" start-

ing position 0. For circular trays a setting of "SP=0" is usually better than the default setting "SP=1".

### PDCMode

This menu item is only relevant when a projector module is connected. It is used for activating and deactivating PDC Mode. It should be activated (PDC=ON), if shows are run which were programmed with the Kodak PDC control unit or the Bässgen system and the following problem comes up:

PDC control units do not recognize the mechanical 0-position and automatically assume that the show is started from tray position 1. As a matter of fact, circular trays are usually installed in the 0-position of the projector, and the required transport step to slide 1 is programmed. In this case, however, the tray position information in the data signal, is "Slide 2", while the actual tray position is slide 1. This difference by one slide between the programmed and the actual tray position can be corrected in PCD Mode.

## Display

### Bright (Brightness)

For adjusting the display brightness. Settings from "Br=1...15" can be selected. What value is appropriate depends on ambient brightness. Just try it out.

### MsgDely (Message Delay)

Special information on various events are only displayed briefly on the graphic display. This refers, for example, to controlling the volume via the IR remote control unit.

The period of time these messages are to be displayed can be adjusted via this menu item. The values to be entered range from 0.1 to 2.49 seconds (MD=1...249). The factory-set value is 0.8 seconds.

Value MD=250 has a special meaning and causes a message to be displayed until some other information comes up.

### TimeDsp (Time Display)

For setting the time display to be seen while playing MP3 files within a show. With TD=ON the playing time of an MP3 sample is counted down to zero. This means that the presenter of a Speaker Support show knows exactly when to start after the countdown. TD=OFF, on the other hand, means that during the whole show the time counts in accordance with the timeline in Wings.

### ProjDsp (Projector Display)

This is a very important menu item for users of the projector module. It allows you to activate the projector status display (PD=ON). Temporary messages for volume changes or show selection will be displayed all the same. PD=OFF resumes unrestricted display for the SC MASTER.

### FastDsp (Fast Display)

This menu allows you to define whether the firmware version is to be displayed (FD=OFF) upon starting up the device, which is the default setting, or whether it should immediately be ready for operation (FD=ON). This setting is appropriate when the SC MASTER is to perform certain functions immediately upon starting up the system.

### IRRecve (IR-Receive)

Use this menu item to switch off reception of IR remote control signals. For large-scale installations with a variety of IR controllable SD components it may be useful to activate IR reception for the "Master" unit only (IR=ON), and to deactivate IR reception (IR=OFF) for all other "slave" units.

### DMX (DMX 512)

This menu serves for activating (DMX=ON) or deactivating (DMX=OFF) the output of DMX512 commands. The commands are output at the REMOTE connector. The required cable adapter SCK-MDMXE is available as an accessory. As a standard, channels 1 to 6 can be used. By adding the optional DMX Upgrade Module output can be extended to channels 1 to 64. Always the first 6 or 64 DMX addresses, respectively are referred to, the address position cannot be changed.

**Note:** When DMX output is activated, IR commands can no longer be transmitted because both features use the same output port.

### HighLgt (High Light Function)

Here you specify whether and how the HighLight Function of Ektapro and Leica RT projectors it to take effect. With a setting of HL=OFF the HighLight function is permanently deactivated, with HL=ON permanently activated. After selecting "Program", the HighLight commands contained in the control program are evaluated for activation of the HighLight Function. This is the default setting.

### DataIO (Data In/Out)

This menu allows you to select the devices to be operated at DATA IN/OUT. With a default setting of "Auto-Select" (AutoSel), the SC Master will only detect devices **OC 16 out**, **OC analog**, the **Slider** or a **matrix keyboard**. Any other devices must be chosen manually:

- **RMT16in** ...for the Remote 16 In Module, which allows direct connection of 16 keys without matrix. Keystrokes are also evaluated when the keys are activated simultaneously.
- **4Key05V** ...for 0 - 5 Volt dimmer (Conrad C-Control Dimmer) and four switching inputs.
- **Slid40** ...for a special interface with 40 faders.
- **OCAnalg** ...for the OC Analog Module with 16 open-collector outputs and 8 analog outputs (0 – 10 V).
- **OC16Rmt** ...for the OC 16 Remote Module with 16 open-collector outputs and 8 inputs, e.g. for starting shows.
- **OC16Out** ...for the OC 16 Out Module with 16 open-collector outputs

- **Keyboard** ...for 4x4 matrix keyboards; the keyboard control system can only evaluate one key stroke after the other.

## Sound

This menu allows you to carry out settings for the SC MASTER audio section. Please note that all explanations refer to the LITE version using a four-channel card player. The 2M version also allows all functions and menus to be selected. However, this does not extend to channels 3 and 4 because they are not available.

### Master

The values laid down in the following menus apply to the summed mixer level, i.e. to the mix of all audio sources.

### Volume

In this menu you can enter the master control volume for SC MASTER after switching on (MV=0...31). Please note: 0 = -79 dB and 31 = 0dB. Via the IR remote control you can adjust the volume, starting from the pre-set value.

### Bass

For bass settings. Values between -7 and +7 can be set. In this context, MB=0 means that there is no change as com-

pared to the original, -7 = -14 dB (100 Hz) and 7 = +14 dB (100 Hz). Via the IR remote control you can adjust the bass portion individually, starting from the pre-set value.

### Treble

For treble settings. Values between -7 and +7 can be set. In this context, MT=0 means that there is no change as compared to the original, -7 = -14 dB (100 Hz) and 7 = +14dB (100 Hz). Via the IR remote control you can adjust the treble portion, starting from the pre-set value.

### Input - VolCard (Volume Card)

Defines the volume setting for the card player input control after activation (VC=0...31). A value of 0 = -79 dB and 31 = 0 dB. Via the IR remote control you can adjust the volume individually, starting from this pre-set value.

### SaveVol (Save Volume)

Saves all current volume levels set via the IR remote control unit. When starting up SC MASTER again, those very same volume settings take effect.

# Signal

In combination with other AV components, SC MASTER is a most versatile unit. A necessary precondition is flexibility in managing the control signals, which can be adjusted in the menus listed below.

### Priorty (Priority)

This menu is used for defining whether the control signal specified in Wings and saved with the show or that specified in the SC MASTER menu is to take effect. Setting "Card" uses the routing saved along with the show for playing back (Default setting). Setting "Menu", on the other hand, gives priority to the parameters chosen in menu "AudioRt".

### Cue-In

Depending on the menu setting, the CUE IN connector may be used as input or output for a variety of signals. For possible configurations see below:

### MTDLCIn (MateTrac DLC In)

...connector CUE IN is configured for reading MateTrac and DLC signal (default setting). In combination with a projector module, shows can be played back via control signals from CD, DAT or tape. Playback from DAT only supports a sampling rate of 44.1 kHz.

### MateTrac

The control program of a show in progress is output as MateTrac data signal at the CUE-IN connector, but only to the extent it is supported by the MateTrac set of commands. This MateTrac data signal is output in parallel with the DLC signal, which is applied to CUE OUT as usual.

### TC-25F

The individual time positions within a show are output at CUE-IN as SMPTE time code at 25 f/s.

### TC-30F

The individual time positions within a show are output at CUE-IN as SMPTE time code at 30 f/s.

### TC-In

SMPTE time code at 25 or 30 f/s is read, with the frame rate being detected automatically. A show in progress is synchronized in accordance with the time code read.

### ContDLC (Continual DLC)

This menu item allows you to specify whether output of a DLC control signal is to be continued at the end of a show (CD=ON) or not (CD=OFF; default setting).

With CD=ON, the DLC control signal is applied to CUE OUT even after the show has finished and continues to transfer the current status to the connected devices. If, on the other hand,

you require manual control of the devices, e.g. in order to change the trays or to switch the projectors to Standby Mode, the control signal may prove to be irritating. Therefore, CD=ON should be used for special installations only.

**Note:** You can switch the control signal on or off even during normal operation by pressing keys ↑ and ↓ simultaneously for half a second. The display will briefly show "Record" (signal was activated) or "Playback" (signal was deactivated).

## RSOut

These menus are used for selecting drivers for serial control of projectors and multi media components.

### Driver

Below you will find the corresponding driver for your application:

| | |
|---|---|
| RS232 | for serial control of special devices |
| Ekta/RT | for Ektapro and Leica RT projectors |
| BraunRS | for Braun Multimag SC 669 |
| KindMPC | for Kindermann Silent 2500 MPC |
| RollTwn | for Rollei Twin MSC 3xx P |
| RollTw2 | for Rollei Twin MSC 3xx P in simple mode * |
| Roll66 | for Rollei Vision MSC 66 Dual |

| | |
|---|---|
| Simda S | for Simda 3245/3445 and 3262/3462 |
| Transpd | for special applications |
| ChipCrd | for reading of and writing on chip cards |

*) In Simple Mode for Rollei Twin there is no automatic allocation of odd tray numbers to A and even tray numbers to B. This mode must not be used in combination with Wings Platinum.

**NumOfPr (Number of Projectors)**

This menu enables you to select the number of slide projectors used in your set-up, e.g. NP=4, for four projectors. Choose NP=2 for RolleiTwin projectors.

# Timer

SC MASTER is equipped with a timer for time-controlled dissolves by means of a projector module or for starting whole shows from CF card. The following menus allow you to select the corresponding timer parameters.

### AutoTim (Auto Timer)

By activating the auto timer (AT=ON), SC MASTER starts timer operation immediately after starting up. This may come in handy for fixed installations running over a period of several days. Set AT=OFF to switch off the timer.

### Command

For entering the required commands. (TC=1...9). Numbers 1 to 9 correspond to the functions on the IR remote control unit. When a projector module is connected, these commands cause dissolves at a speed ranging from 0.2 to 30 seconds, according to the key pressed or the number entered. When a CF card is inserted in the unit, shows 1 to 9 can be started via the timer.

### TTime (Timer Time)

Here you can specify the interval. I.e. the time between slide changes for dissolves or the period before the next show start. The time is entered in minutes and seconds, i.e. a value for TTime= 0140:15 means 2 hours, 20 minutes and 15 seconds.

Entries in this menu can be performed via the IR remote control unit. The keys have the following functions:

| **IR remote control unit** | **Menu function** |
|---|---|
| PLAY key ▶ | ENTER |
| STOP key ■ | ESC |
| Skip keys ⏩ and ⏪ | Keys ↑ and ↓ |

Use the YES key to activate numerical entry and to change over between minutes and seconds. Numbers are entered via the numerical keyboard. By pressing the NO key the numbers of the active field can be deleted.

# Info

This menu contains information about the SC MASTER.

**SerNr** stands for the serial number of the device.

**Upgrade** show the current device version in terms of available **DMX** channels.

This menu is also used for installing upgrades to the DMX module. The licence number on your upgrade licence is entered as follows:

Press ENTER several times to select "DMX 6" and press ENTER once more for eight additional dashes to be displayed. The first of the eight dashes is blinking. Use keys ↑ and ↓ to enter the first digit of the licence number and confirm with ENTER. Now the second dash will start blinking. Proceed as before until the complete licence number has been entered. After confirming the last digit the display will show "DMX 64" as an indication that the upgrade has been completed successfully.

Should the display be the same as in the beginning, you may have made a mistake in entering the number. Check by pressing ENTER once again and correct the number if necessary.

# Trouble shooting

## Finding faults

The SC MASTER is only one from a number of components in your dissolve system. Therefore, errors might also be caused by other devices - which doesn't make trouble shooting any easier. In such a case it can be an advantage to understand what is happening. Don't panic and try a systematic approach to the problem.

- Try to find out about the interaction between the devices for the particular application.
- Check whether the necessary cables are connected.
- Switch on all necessary devices and select the corresponding mode.
- Check, if necessary by means of other devices, i.e. via audio level displays or by exchanging devices, whether the correct signals are actually applied.
- Look up your problem in the list of problems on the next pages to find out whether there is a solution to your problem.

# List of problems

In the following list of problems you can find some solutions to problems, sorted according to topics:

**After inserting the CF Card the display shows "Reinsert Card".**

➔The CF Card has not been detected after insertion. You can repeat this process or switch the SC MASTER off and on again with the CF card remaining in the slot. When starting up, it is easier for the SC MASTER to detect the CF card.

**When copying presentation data onto CF card the following message appears: "Not enough memory" although the CF card is new or empty.**

➔ Presumably the CF card still needs formatting. This can be done in the Windows Explorer. Use the standard FAT format instead of FAT 32 – SC MASTER does not support the latter.

**After inserting the CF Card in the control unit, message "No Show.in file" appears on the display.**

In principle, this may have two reasons:

➔ The CF card is empty or Show.ini is not available. **Solution:** Copy presentation data onto CF Card.

➔The CF Card was formatted using the FAT32 file system. **Solution:** Format the CF Card using the FAT16 file system. In the Windows Explorer, right-click the CF Card, followed by

**Format**... Select file system **FAT** and format the CF Card. Then copy the presentation data once again onto CF Card.

**IR remote control does not work.**

➔ Check the batteries and their position. When the remote control is activated at a normal distance (approx. 0.5 to 1.5 m) the control unit should react.

➔ Make sure that IR reception for the control unit is activated in menu "Options", see page 65.

➔ Please note that the range of the IR remote control can be quite different for distances beyond 15 m! See on page 43.

**Sound track is not in sync with the devices.**

➔Maybe you have edited the sound track in Wings Platinum and transferred the updated show only (i.e. only the control programme) onto CF Card. Recompute all presentation data for your show and transfer them to CF card.

**Slide projectors do not react; the control unit does not respond to control signals.**

➔ Check whether the control unit is in Record Mode, which can be recognized by the sand glass and the rhombus on the display . If necessary, terminate this mode.

**If all these attempts have been without success ...**

➔If neither the list of problems in the manual nor the SC MASTER Online Help can contribute in any way to solving

your problem you should turn to your dealer or directly to us giving a detailed description of the problem. For the address refer to page 6.

# Updating the operating software

## Updating

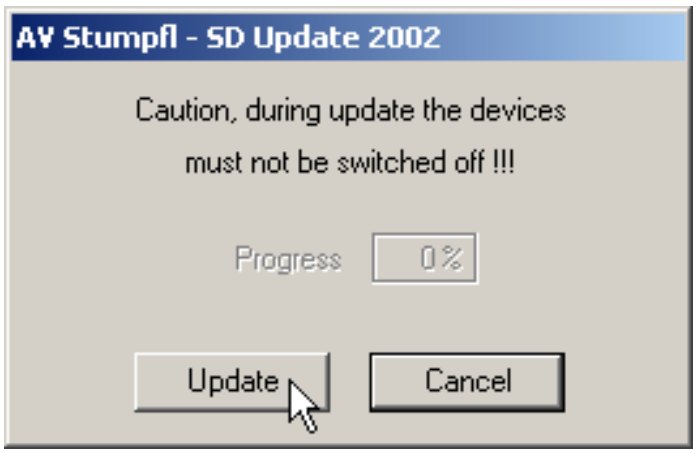
Your SC MASTER control unit, which includes a processor with operating software, can very simply be kept up-to-date by loading new software.

➔Download an Update File from the Internet. It is available at www.stumpfl.com under "Download" / "SD Update". If you do not have access to the Internet, turn to our Support for help.

➔ Connect the RS232-IN port of the SC MASTER to one of the serial computer ports (Com 1....4).

➔Start your computer and switch on the SC MASTER.

➔ Double-click the downloaded file ***SDUpdateEx....x.exe*** to start it. Information about updateable devices will appear. Now click "**Setup**".




➔Click on "**Update**". Progress can be monitored in the dialog box. The SC MASTER display will show messages on the updating process.

➔ After about 15 minutes the updating process should be complete – a corresponding message will appear on the display. SC MASTER will boot automatically and be ready for use again after that.

**Important note:**

- While updating, SC MASTER must by no means be switched off nor the connection to the computer be broken!
- If a screen saver is activated during the update, the update dialog may appear in white. In this case you should wait for updating to be completed. This can be recognized by the information on the SC MASTER display.

# Technical Appendix

## ASCII protocol

The ASCII protocol allows SC MASTER to be conveniently integrated into comprehensive multi-media installations controlled by media control systems.

Via the serial port (RS232-IN) and ASCII commands the IR remote control can be simulated. Moreover, this feature also allows selective control of shows played back from CF card.

No initialization is necessary before ASCII commands can be sent to the control unit. The communications protocol is 9600 Baud, 8 data bits, no parity bit and one stop bit.

ASCII command identification "a" (= 61 Hex, 97 Dec) must be sent as first character. Command end identification "#" (= 23 Hex, 35 Dec) must be sent as last character. No spaces are allowed. The maximum time interval between two characters must not exceed 20 ms, otherwise the command is ignored.

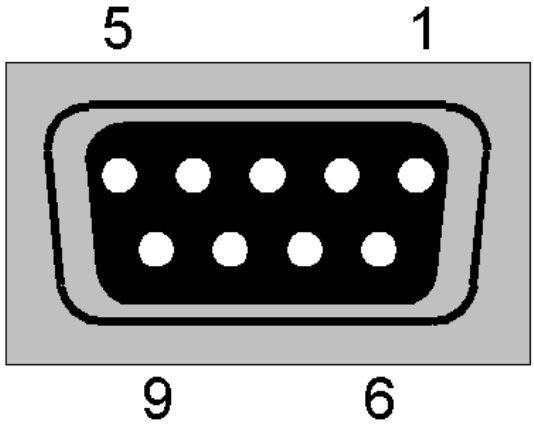
| ASCII code | Function |
|---|---|
| aSNxxx# | Normal show start. The current show is interrupted. xxx = show number from 1 to 120 |
| aSTxxx# | Terminate show start. Only the show that is unequal to xxx is aborted. xxx = show number from 1 to 120 |
| aSIxxx# | Interrupt show start. The current show is interrupted. xxx = show number from 1 to 120 |
| aSNxxxMyy | Normal show start from marker. xxx = show number from 1 to 120, yyy = marker number from 1 to 255 |
| aSIxxxMyyy | Interrupt show start from marker. xxx = show number from 1 to 120, yyy = marker number from 1 255 |
| aSS# | Show is stopped immediately. |
| aSSMyyy# | Show is stopped when marker yyy is encountered. xxx = marker number from 1 to 255 |
| aExxxx# | Reserved for audio matrix |
| aV+# | Master Volume up |
| aV-# | Master Volume down |
| aV:xx# | Adjusts the Master volume to the value specified by xx. xx = 0 to 31. Commands including values >31 are ignored. |
| aB+# | Master Bass up |
| aB-# | Master Bass down |
| aB:xx# | Adjusts the Master bass to the value specified by xx. xx = 0 to 14. 0 = -7dB, 7 = 0dB, 14 = +7dB |
| aT+# | Master Treble up |
| aT-# | Master Treble down |
| aT:xx# | Adjusts the Master treble to the value specified by xx. xx = 0 to 14. 0 = -7dB, 7 = 0dB, 14 = +7dB |
| aL1+# | Line1 volume up * |
| aL1-# | Line1 volume down * |
| aL1:xx# | Adjusts the Line1 volume to the value specified by xx. * xx = 0 to 31. Commands including values >31 are ignored. |
| aL2+# | Line2 volume up * |
| aL2-# | Line2 volume down * |

| | |
|---|---|
| aL2:xx# | Adjusts the Line2 volume to the value specified by xx. * xx = 0 to 31. Commands including values >31 are ignored. |
| aC+# | Card volume up * |
| aC-# | Card volume down * |
| aC:xx# | Adjusts the card volume to the value specified by xx. * xx = 0 to 31. Commands including values >31 are ignored. |
| aM+# | Micro volume up * |
| aM-# | Micro volume down * |
| aM:xx# | Adjusts the microphone volume to the value specified by xx. * xx = 0 to 31. Commands including values >31 are ignored. |
| aX# | Starts at an X-time |
| aP# | PAUSE function. Corresponds to the PAUSE key on the remote control unit |
| aY# | YES function. Corresponds to the YES key on the remo control unit |
| aRx# | Set sound routing x. x = values from 1 to 7 correspond to the possible routings in Wings* |
| axPyyy# | Start player x at track number yyy. X = value of 1 or 2 corresponding to the EC Pro player * |
| | yyy = values from 1 to 256 correspond to entry SHOW.INI; 0 = stop |
| aTKxxx# | Start track number xxx; xxx = value from 1 to 256. Corresponds to entry in SHOW.INI (player 1) |
| aTS# | Stop Track (Player 1) |
| aJMxxx# | Jump to Marker; xxx = number of markers. Values from 1 to 255. Show is continued after Jump. |
| aJMWxxx# | Jump to Marker and Wait; xxx = Number of marker. Values from 1 to 255. After jump, additional entry via t keyboard s waited for. |
| aActtt# | Set AUX relay; c = 1 to 4 corresponds to AUX 1 to 4, ttt = 0 -> open; ttt = 1 -> close; ttt >=2 and <= 255 switching pulse at a time of ttt in 1/10 seconds.* |

* not available for SC MASTER LITE

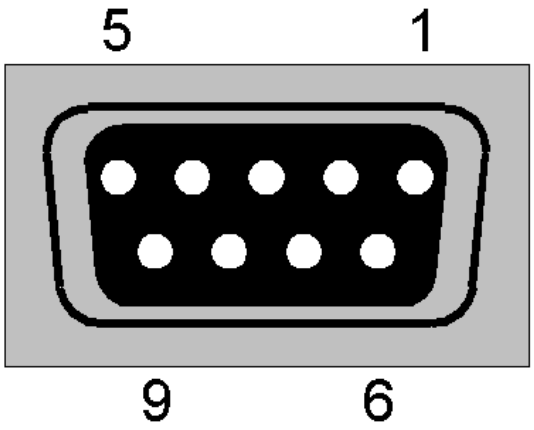
# Connector configuration

## RS232-IN / CAN connector



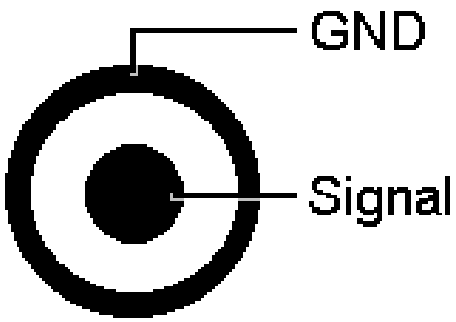

| | | |
|---|---|---|
| 1. | N.C. | N.C. = not connected |
| 2. | TxD | |
| 3. | RxD | |
| 4. | N.C. | |
| 5. | GND internal | |
| 6. | N.C. | |
| 7. | CAN_RX | |
| 8. | CAN_TX | |
| 9. | N.C. | Shield = internal GND |

## RS232-OUT connector




| | | |
|---|---|---|
| 1. | N.C. | N.C. = not connected |
| 2. | TxD | |
| 3. | RxD | |
| 4. | N.C. | |
| 5. | GND internal | |
| 6. | N.C. | |
| 7. | CTS | |
| 8. | RTS | |
| 9. | N.C. | Shield = internal GND |

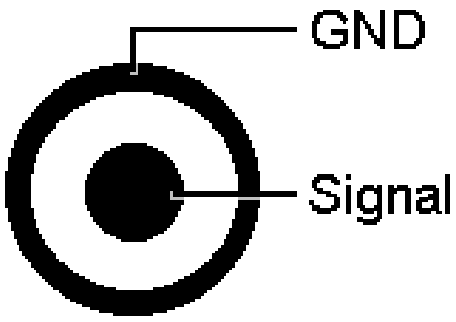
**CUE IN connector**




GND internal

CUE-IN sensitivity 0,3mV (-10dBV, -7,8dBu)

**CUE-OUT connector**

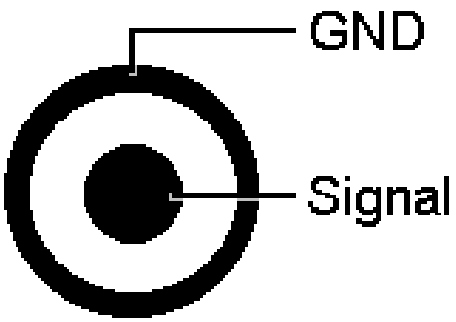



GND internal

CUE OUT output level: 5V (14dBV, 16,2dBu)

(0dBV is referenced to 1Veff, 0dBu is referenced to 775mVeff)

## Audio connectors

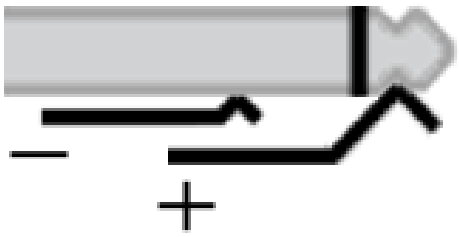



### LINE-IN

With a 0dB dB signal (sine wave) generated by Wings Platinum and converted into an MP3 file, SC MASTER generates a 4,1V peak-peak output level (equal to 2.9V RMS).

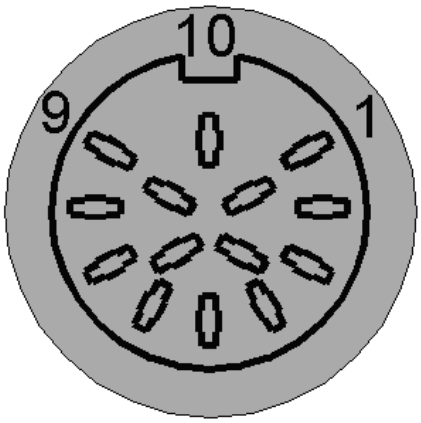
All internal settings of the SC MASTER are adjusted to 0dB (= card volume 29 and Master Volume 31).

### SPEAKER



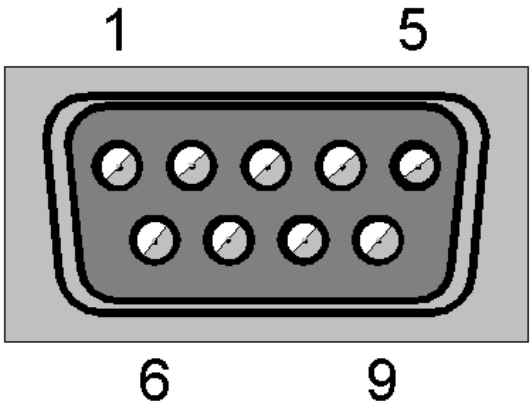
Loudspeaker sockets are only available for the LS variant. The integrated power amplifier supplies 2 x 10 W into 4 Ohm.

## REMOTE connector




1. Start Show 2
2. Start Show 1
3. + 12 VDC up to + 40 VDC (unstable) Output
4. N. C.
5. +5V DC regulated Output (max. 20mA)
6. GND intern
7. Toggle Input
8. Open Collector Output (IR-Out 2)
9. Analog Input1 (max. 0-5VDC)
10. + 12 VDC up to + 40 VDC (unstable) Output (connected to Pin3)
11. External IR Input
12. Open Collector Output (IR-Out 1, DMX-Out)
13. GND internal
14. Analog Input2 (max. 0-5VDC)

## DATA IN / OUT connector

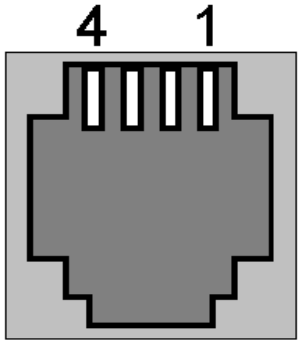



1. Data In 1
2. Data In 2
3. Data In 3
4. Data In 4
5. Data In/Out 1
6. Data In/Out 2
7. Data In/Out 3
8. Data In/Out 4
9. +5VDC (max 20mA)

N.C. = not connected

Shield = internal GND

**POWER connector**




1. + 2. 15VAC (Winding 1 of Power Supply Unit AC-3)

3. + 4. 15VAC (Winding 2 of Power Supply Unit AC-3)

**Power Supply AC-3 (2x15V/500mA) must be used!** Other Stumpfl power supplies do not have enough power handling capacity!

**LS variant required STZ-NG3-Switch**

# Technische Daten

**SC MASTER LITE**

| | |
|---|---|
| Dimensions (H/W/D): | 45 x 212 x 170 mm |
| Weight: | 1060 g / LS variant 1120 g |
| Power supply: | 15 VAC to 24 VAC / 50, 60 Hz |
| Stand-by current: | 500 mA / LS variant max. 1,8 A |

# Glossary

**Cascading**

Connecting devices in series. With the SC MASTER this is done via control signal lines or by means of serial connections via RS232.

**CD-R**

A CD for writing on with a CD writer, which can also be read by normal audio CD players. It can only be written on once and cannot be deleted.

**CF Card**

CompactFlash Card, a memory card the size of a postage stamp which is also used for digital cameras. It has a fixed memory, works without movable components and is wear free.

**Copy protection bit**

A protective measure introduced by the music industry to allow digital copying only once.

**CD-R**

A CD for writing on with a CD writer, which can also be read by normal audio CD players. It can only be written on once and cannot be deleted.

**Cues**

Control commands of a slide show which can be recorded as control signals on a sound carrier.

**DAT Recorder**

**D**igital **A**udio **T**ape - cassette recorder for digital storage of audio signals in CD quality.

**DLC**

**D**ynamic **L**ink **C**ode - modern control signal standard, introduced by AV Stumpfl in 1994.

**Ducking**

...is a voice-controlled automatic volume reduction of music or the audio program, respectively.

**HDR**

Hard disk recording - recording of audio signals on hard disk and processing in the computer.

**Hucht RSPpro**

A procedure developed by Hucht for encoding control information in digital audio signals. This encoding system features particularly high fidelity.

**MateTrac**

Widely used control signal standard of Arion, USA. AV Stumpfl has been using this control signal since 1983.

**Mixdown**

..Mix of various sound channels or parallel samples into a stereo sum or stereo sample.

**MP3**

Method for scaleable compression of audio data; developed by the Fraunhofer Institute.

**Port**

In slide control technology, this term stands for a software-configured port.

**Random Access**

Direct access to every slide in the tray within few seconds.

**S/PDIF**

**S**ony/**P**hilips **D**igital **I**nterchange **F**ormat – Standard for digital audio signals in the consumer range

**Sample**

The term used in sound engineering for "sound element".

**Time code**

A time signal developed by film industry for synchronization of different systems, e.g. for picture and sound.

**X Time**

correspond to pause markers in Wings Platinum. Control commands provided with an X time can be started manually at any time. They are used for impulsive synchronization with music as well as for controlling speaker support sequences.

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